



Seattle's Illegal RV Camping: A Topline Study of the Environmental and Public Health Impacts

August 2019



Seattle's Illegal RV Camping

- SODO and Ballard Business Improvement Areas (BIAs) have long monitored the proliferation of RV encampments in their neighborhoods
- In addition to a documented increase in criminal activity, drug distribution, vandalism, and theft, BIA representatives have observed cases of illegal sewage, fuel, and trash dumping, which could lead to an environmental and public health crisis
- The BIA contracted Anchor QEA to explore the potential impact these encampments might have on the local water system as well as on the possible public health effects of an increase in raw sewage, trash, and other waste co-mingling with the human population
- Findings suggest that water quality is declining, raising the possibility of real, measurable issues for the environment as well as an increase in public health challenges connected to poor sanitation in these areas

Unregulated RV camping has created unrest in the neighborhoods they populate, as neighbors report increased trash, drug use, and crime, resulting in headlines such as:

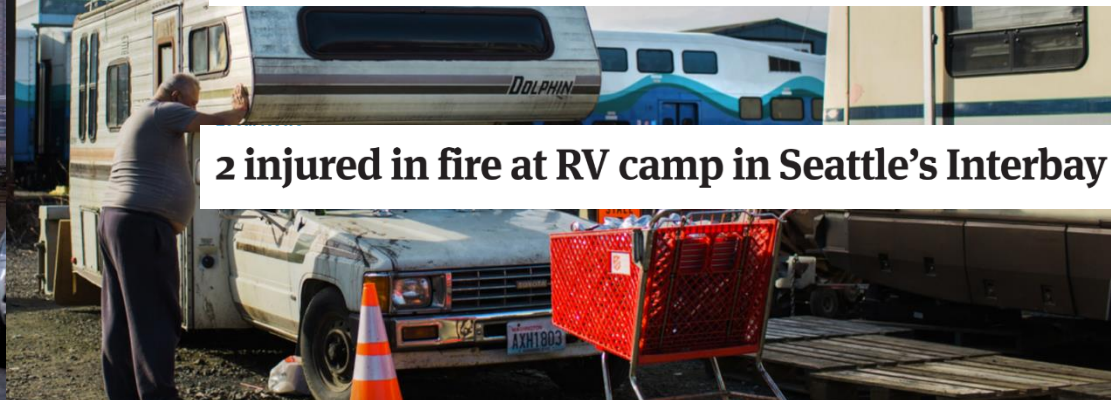


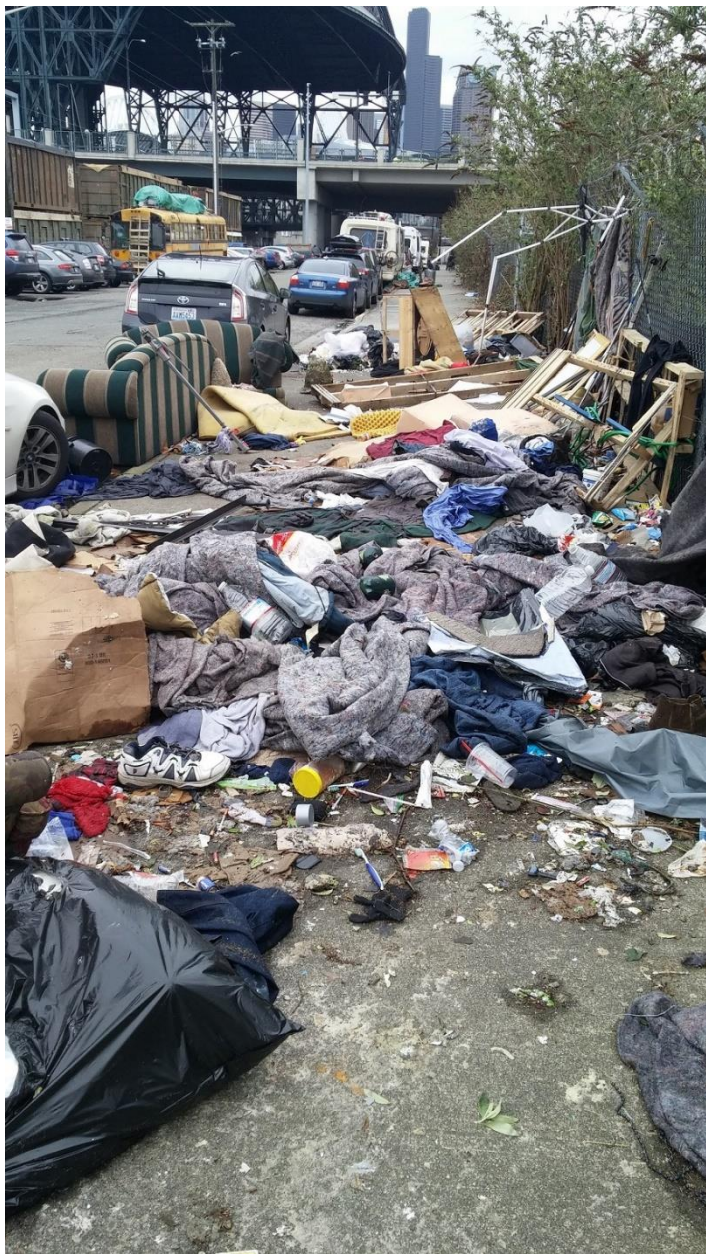
In Seattle's Sodo district, frustration mounts amid RVs, drugs and skyrocketing crime

Originally published January 18, 2019 at 6:02 am | Updated January 18, 2019 at 4:24 pm



Body recovered from RV fire under West Seattle Bridge





Missing from these articles are deeper and potentially longer-lasting damages created by unregulated RV camping: environmental degradation and public health risk, which are issues being seen in California today:

County Inaction Exacerbated Hepatitis A Crisis, Audit Finds

A state audit concludes that local officials failed to adequately plan for and quickly ramp up their response to the 2017 hepatitis A outbreak that eventually led to 20 deaths and sickened nearly 600.

Medieval Diseases Are Infecting California's Homeless

Typhus, tuberculosis, and other illnesses are spreading quickly through camps and shelters.

LA River polluted with harmful levels of fecal bacteria, study finds

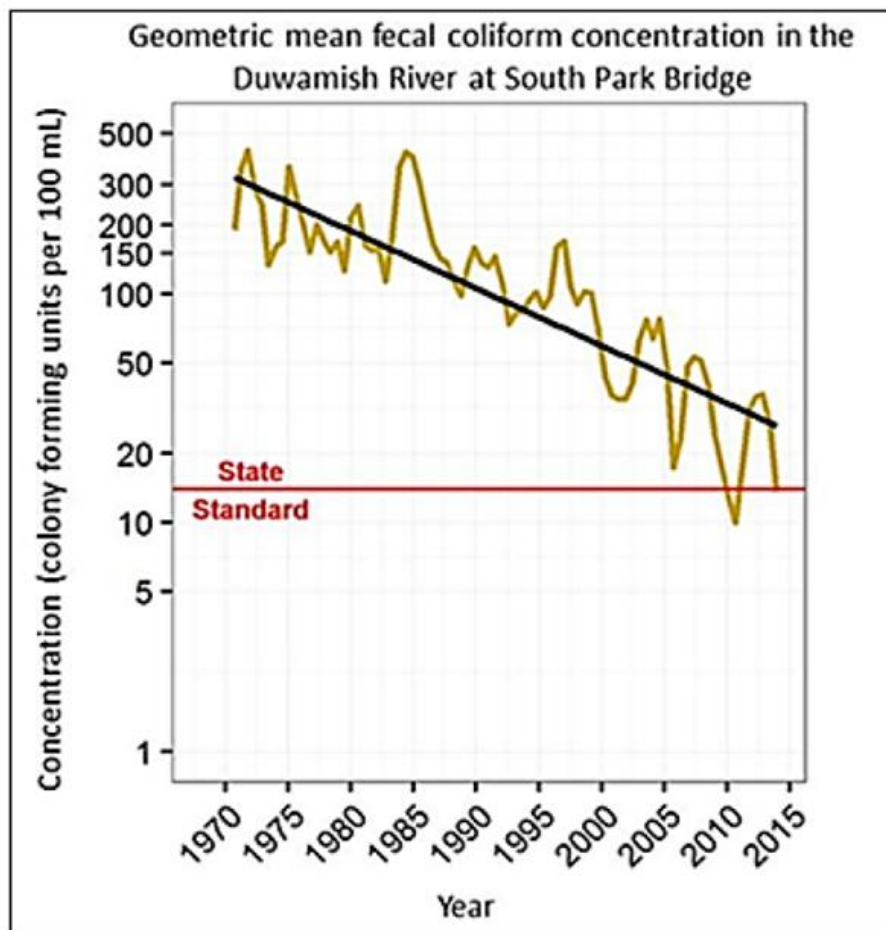
Los Angeles County typhus outbreak reaches 'epidemic levels'

San Diego County Declares Emergency to Fight Hepatitis Outbreak



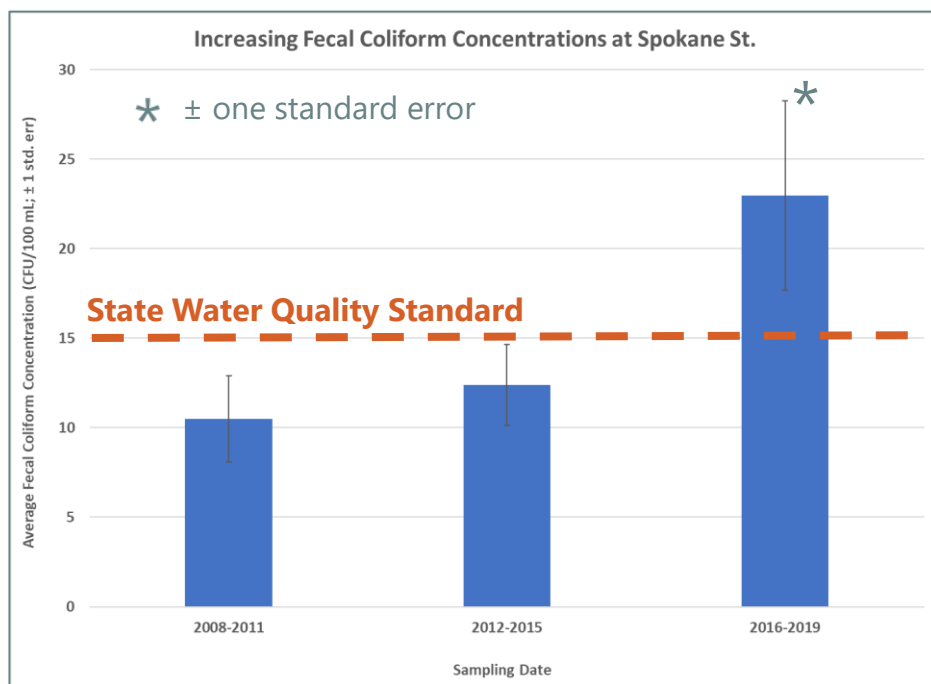
- Status reviews with local and state public health officials
- Review of historical and recent water quality data
- Projection of potential water quality impacts from unregulated RV encampments
- Sampling of Lander Street storm drain

Water Quality Progress Duwamish River: 1970 to 2015

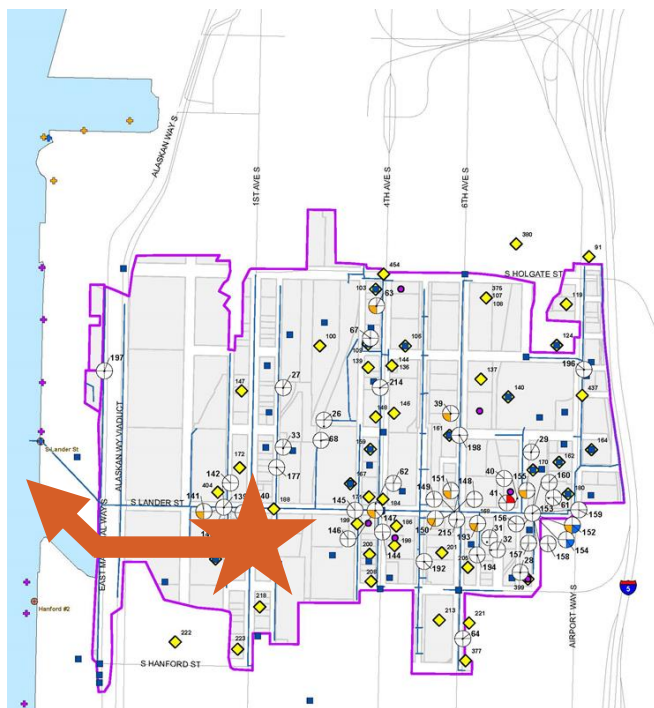


Water Quality Impacts

- King County water monitoring data show a recent spike in fecal coliform levels after decades of improvements
- Elevated levels confirmed by recent storm drain sampling at South Lander Street



Water Quality Impacts (cont.)



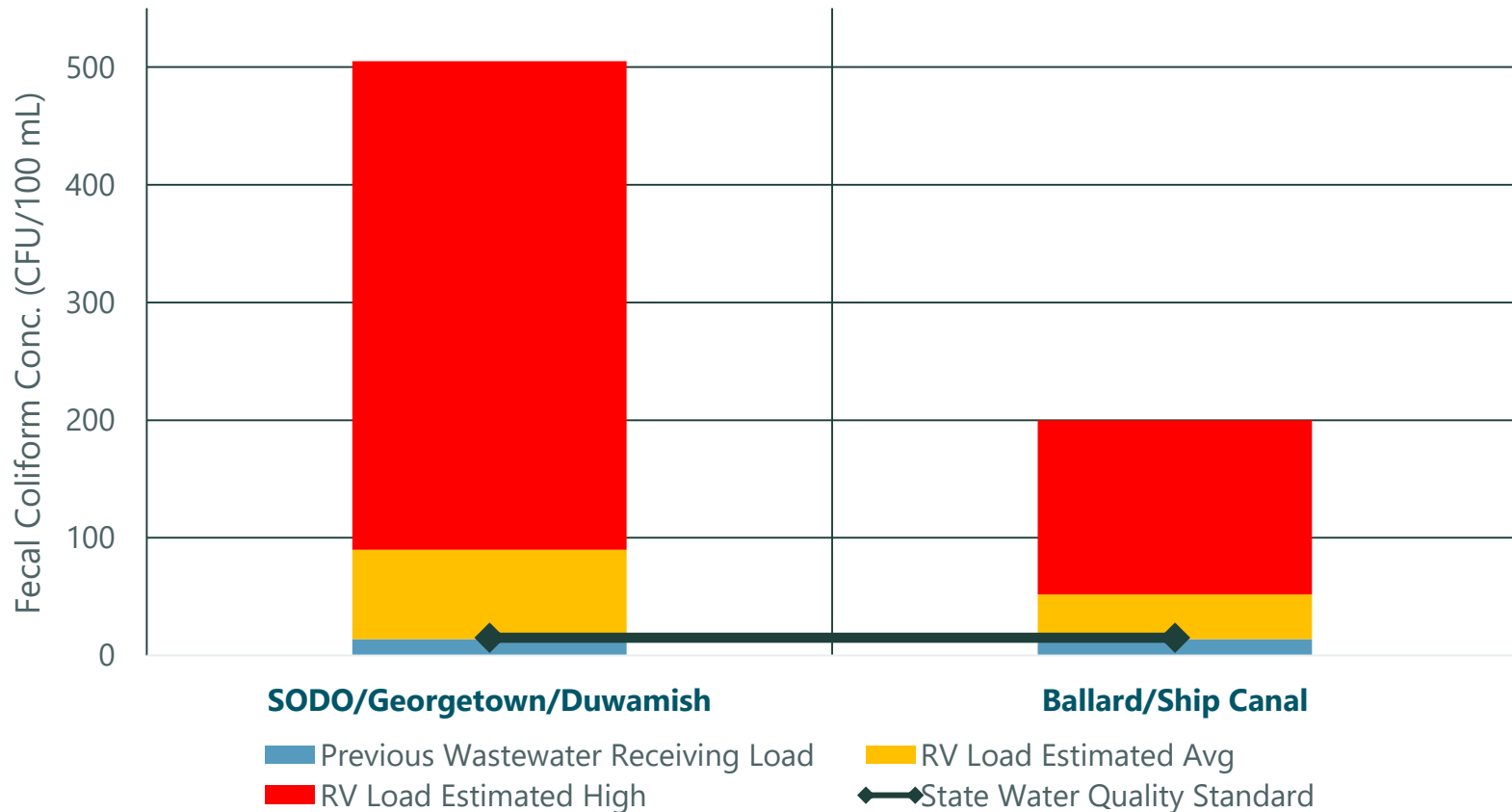
June 7, 2019 Sample

- 4,100 CFU/100 mL
- **300 times** above standard



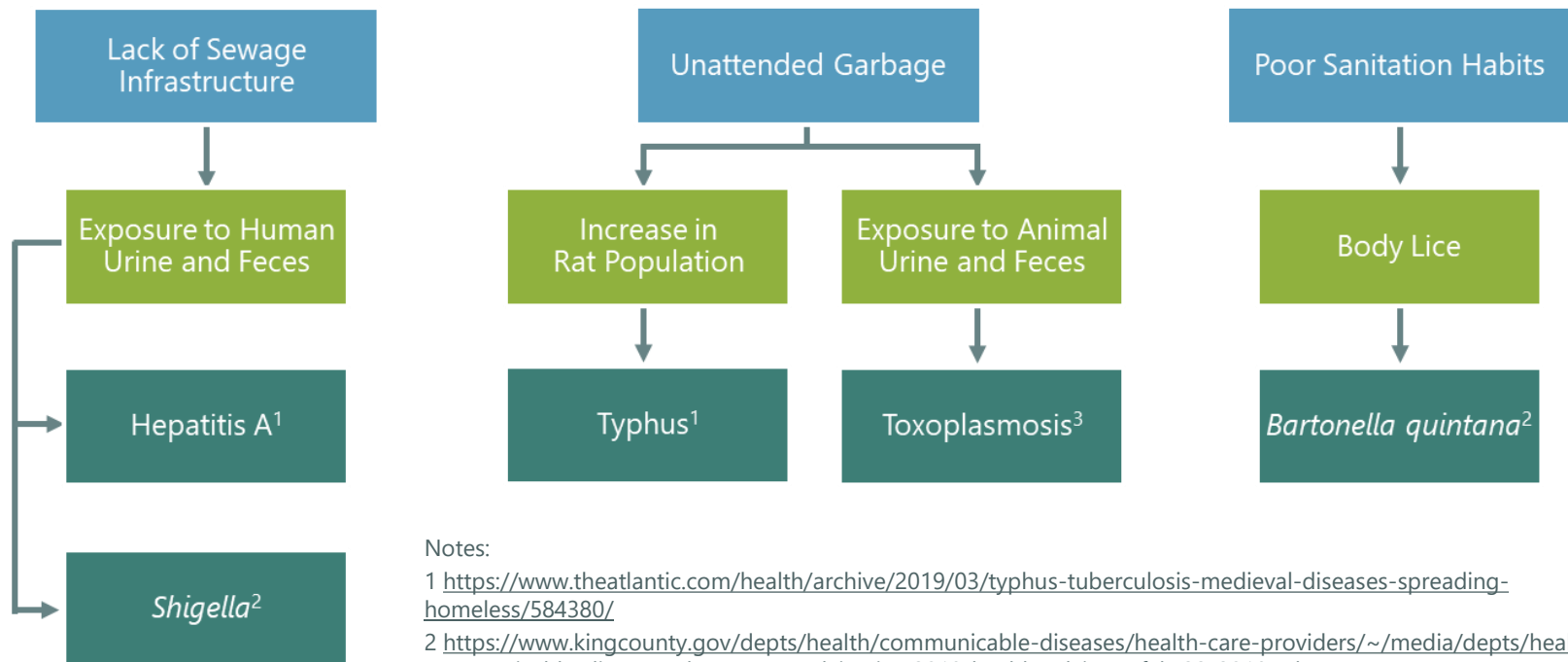
Potential for Worse Impact

Estimated Impact of RV Wastewater Releases on Regional Fecal Coliform Water Quality



Public Health Impacts

- Illegal dumping of sewage and trash, along with unsanitary conditions in unregulated RV encampments, increases public health risks similar to those in cities that recorded serious outbreaks of communicable diseases as a result of unregulated encampments



Notes:

1 <https://www.theatlantic.com/health/archive/2019/03/typhus-tuberculosis-medieval-diseases-spreading-homeless/584380/>

2 <https://www.kingcounty.gov/depts/health/communicable-diseases/health-care-providers/~media/depts/health/communicable-diseases/documents/advisories/2018/health-advisory-feb-23-2018.ashx>

3 Peter Rabinowitz, MD, MPH (University of Washington's Center for One Health Research)



Public Health Impacts (cont.)

- Los Angeles
 - Typhus cases doubled in 2018 from previous 5-year average
- San Diego
 - 592 Hepatitis A cases causing 20 deaths

Pathogens in Human Feces

Type	Organism	Disease	Effects
Bacteria	<i>Escherichia coli</i> enteropathogenic)	Gastroenteritis	Vomiting, diarrhea, death in susceptible populations
	<i>Legionella pneumophila</i>	Legionellosis	Acute respiratory illness
	<i>Leptospira</i>	Leptospirosis	Jaundice, fever (Weil's disease)
	<i>Salmonella typhi</i>	Typhoid fever	High fever, diarrhea, ulceration of the small intestine
	<i>Salmonella</i>	Salmonellosis	Diarrhea, dehydration
	<i>Shigella</i>	Shigellosis	Bacillary dysentery
	<i>Vibrio cholerae</i>	Cholera	Extremely heavy diarrhea, dehydration
	<i>Yersinia enterocolitica</i>	Yersiniosis	Diarrhea
Protozoans	<i>Balantidium coli</i>	Balantidiasis	Diarrhea, dysentery
	<i>Cryptosporidium</i>	Cryptosporidiosis	Diarrhea
	<i>Entamoeba histolytica</i>	Ameobiasis (amoebic dysentery)	Prolonged diarrhea with bleeding, abscesses of the liver and small intestine
	<i>Giardia lamblia</i>	Giardiasis	Mild to severe diarrhea, nausea, indigestion
	<i>Naegleria fowleri</i>	Amebic Meningoencephalitis	Fatal disease; inflammation of the brain
Viruses	Adenovirus (31 types)	Conjunctivitis	Eye, other infections
	Enterovirus (67 types, e.g., polio-, echo-, and Coxsackie viruses)	Gastroenteritis	Heart anomalies, meningitis
	Hepatitis A	Infectious hepatitis	Jaundice, fever
	Norwalk agent	Gastroenteritis	Vomiting, diarrhea
	Reovirus	Gastroenteritis	Vomiting, diarrhea
	Rotavirus	Gastroenteritis	Vomiting, diarrhea

Additional Environmental and Community Health Issues

- PCB releases
 - High PCB levels documented in RV encampments (hoarding?)
 - Exacerbates/thwarts Duwamish Waterway cleanup efforts
- RV fires
 - Several RV fires already this year
 - Contaminants released to air, water, and soil
 - Paints, plastics, and insulation
 - Gasoline and diesel fuel
 - Antifreeze and battery acids
 - Engine and metal degreasers and motor oils
- Fuel theft and spillage
 - Contaminants released to air, water, and soil

PCB clean-up underway at site of former homeless camp in SODO

KOMO



Seattle Times

While not definitive, the data suggest the following concerns:

- Loss of progress on Duwamish Waterway
- Degradation of Puget Sound water quality and fish habitat
- High potential for hepatitis and typhus outbreaks
- Legal action by environmental advocates or infected residents
- Increased loss of life among homeless population
- Proliferation of rats, lice, fleas, and other vermin
- E. coli infections
- Increased toxin levels in fish

Possible Actions

- Water quality investigation
 - Launch identification and correction program
 - Determine sources of fecal coliform degradation
 - Determine sources of other contaminants: PCBs and fuel
- Enforce City Codes
 - 11.72.200 – Fuel Loss
 - 11.72.205 – Grease Dropping
 - 10.46.010 – Permit for Disposal Required
 - 11.74.075 – Dumping Loads
 - 15.46.020 – Spilled Loads
 - 15.46.030 – Deposits in Street or Gutter

Conclusions

- The state of RV encampments in Seattle neighborhoods demonstrates the far-reaching consequences of inaction on unregulated RV camping
- Failure to enforce City laws against the illegal dumping occurring at these sites may already be undoing decades of work to restore the Duwamish Waterway and threatening to spark outbreaks of communicable diseases, both among RV campers and their neighbors
- Action to enforce City laws and remove harmful RV encampments is both an environmental and public health imperative



Questions/Discussion



For more information, please contact:

- Erin Goodman, SODO BIA – erin@sodoseattle.org
- Mike Stewart, Ballard BIA – mike@ballardalliance.com
- Clay Patmont, Anchor QEA – cpatmont@anchorqea.com